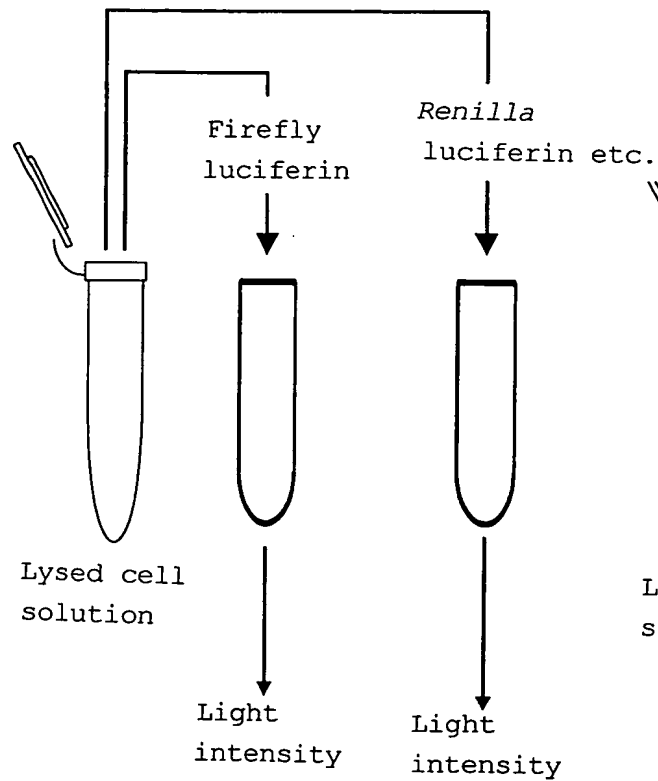


1 / 2 2
Fig. 1

Conventional method:

two transcription activities are each independently measured as light intensity.

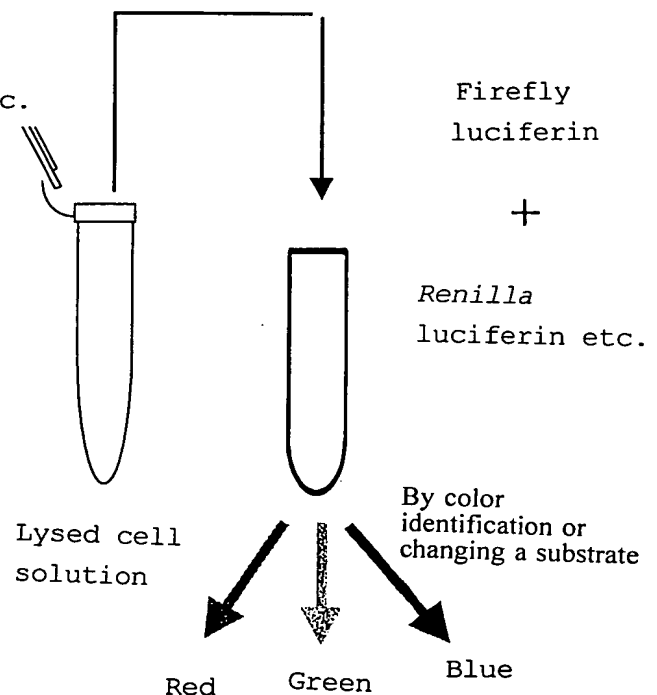


Measurement of
transcription activity

Standardization of
transcription activity

Method of the invention:

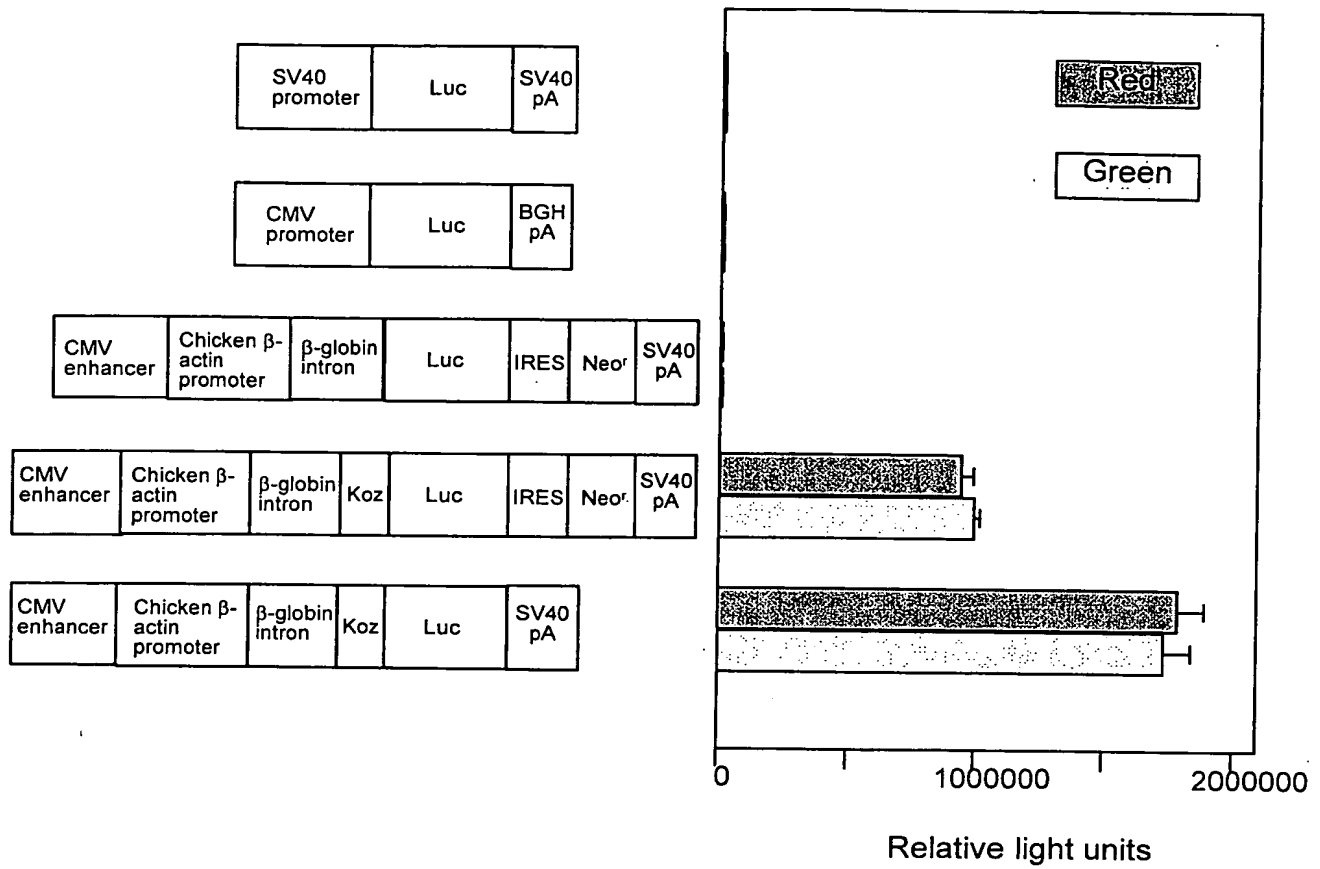
three transcription activities are detected by three colors, red, green and blue lights, and measured by identifying each color of the light.



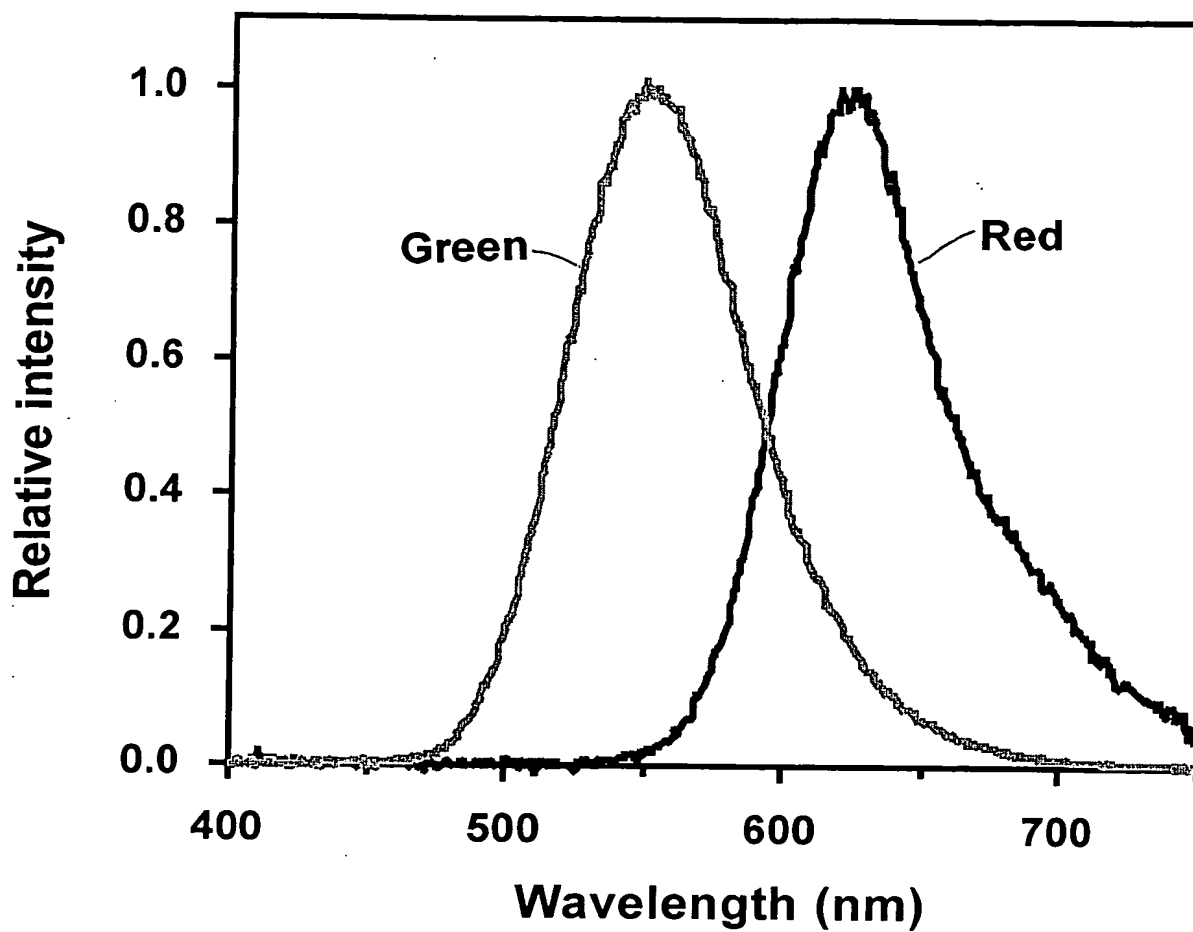
Simultaneous measurement
of transcription activity

Simultaneous standardization
of transcription activity

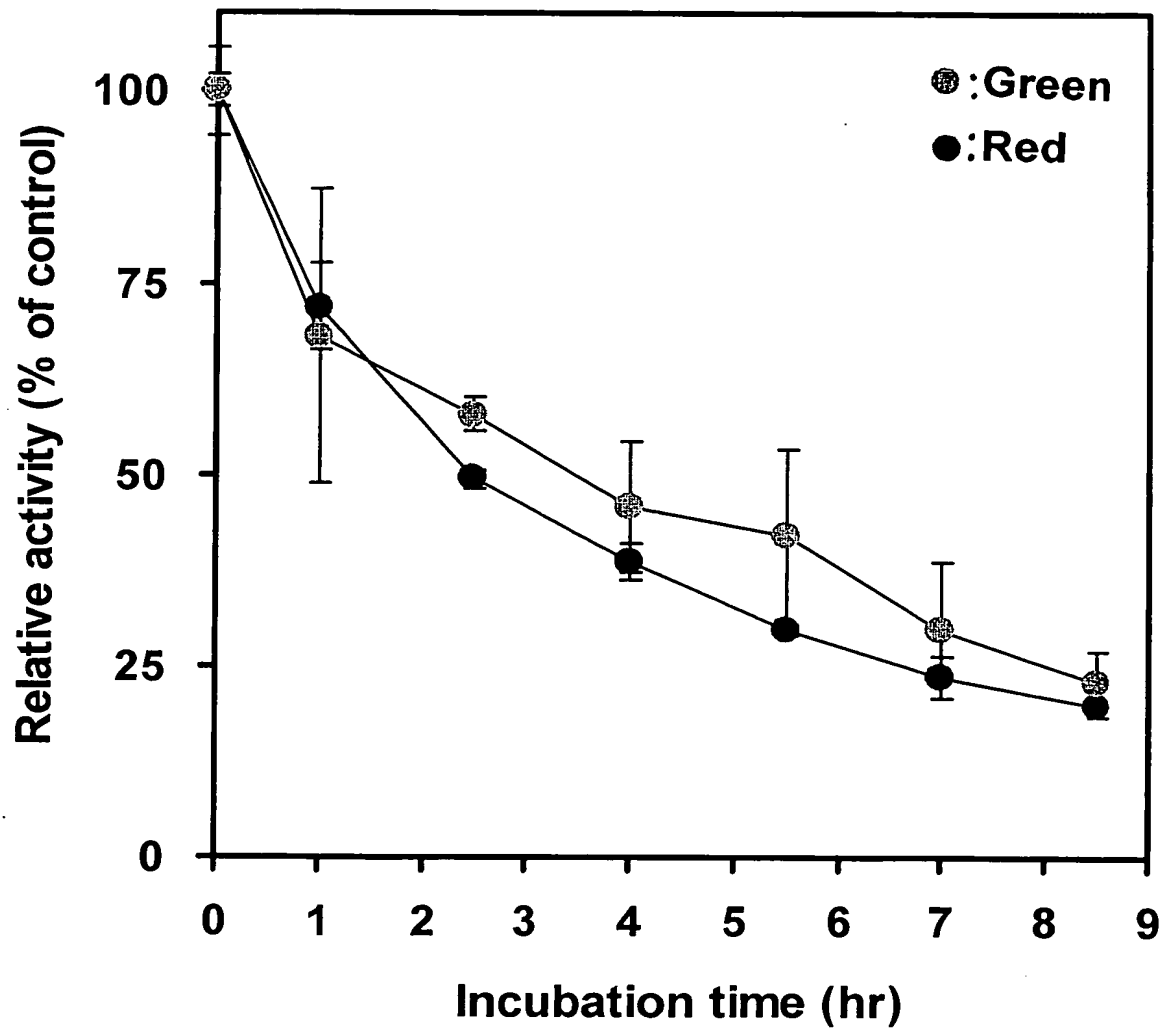
2 / 2 2
Fig. 2



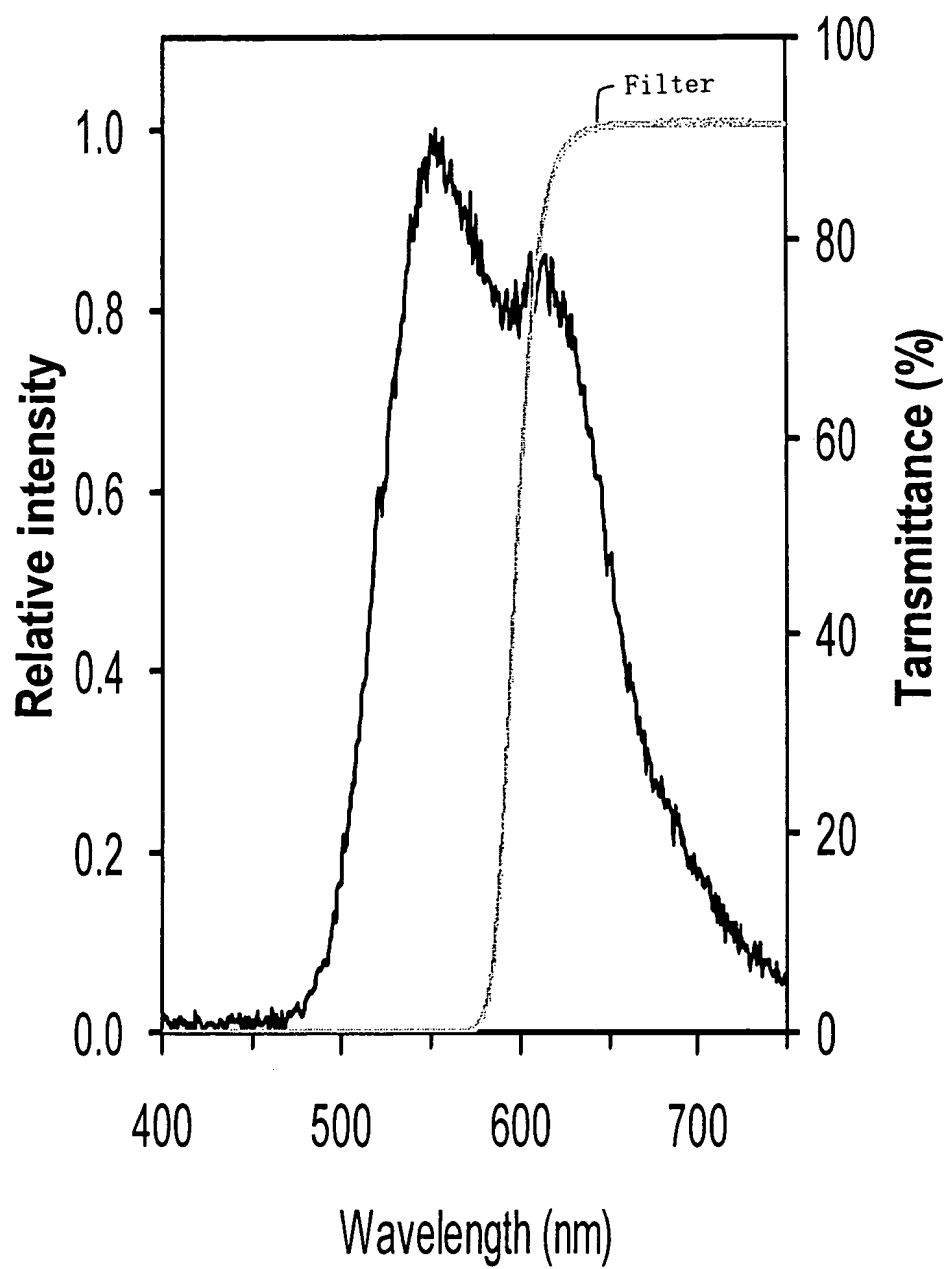
3 / 2 2
F i g . 3



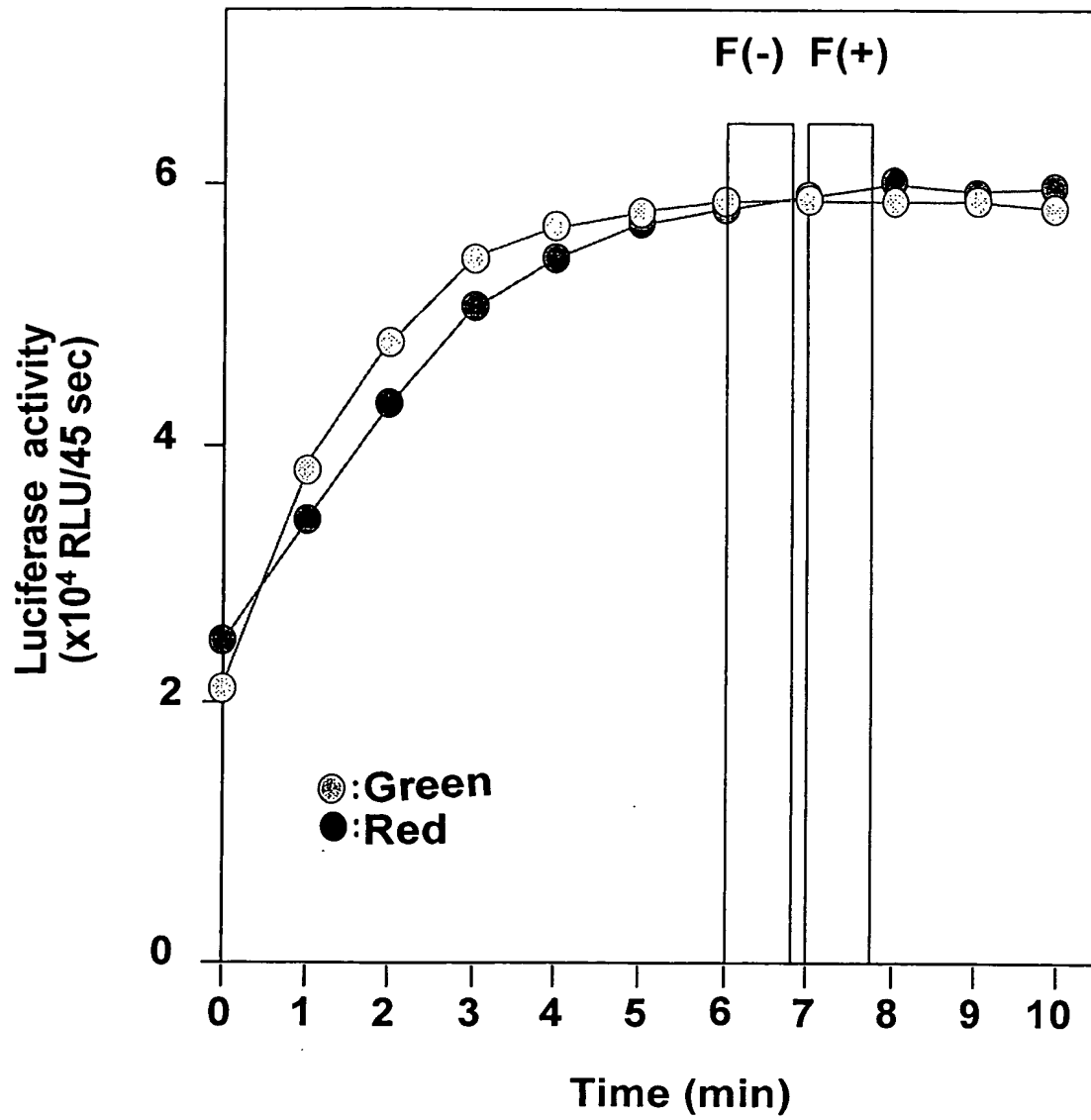
4 / 2 2
F i g . 4



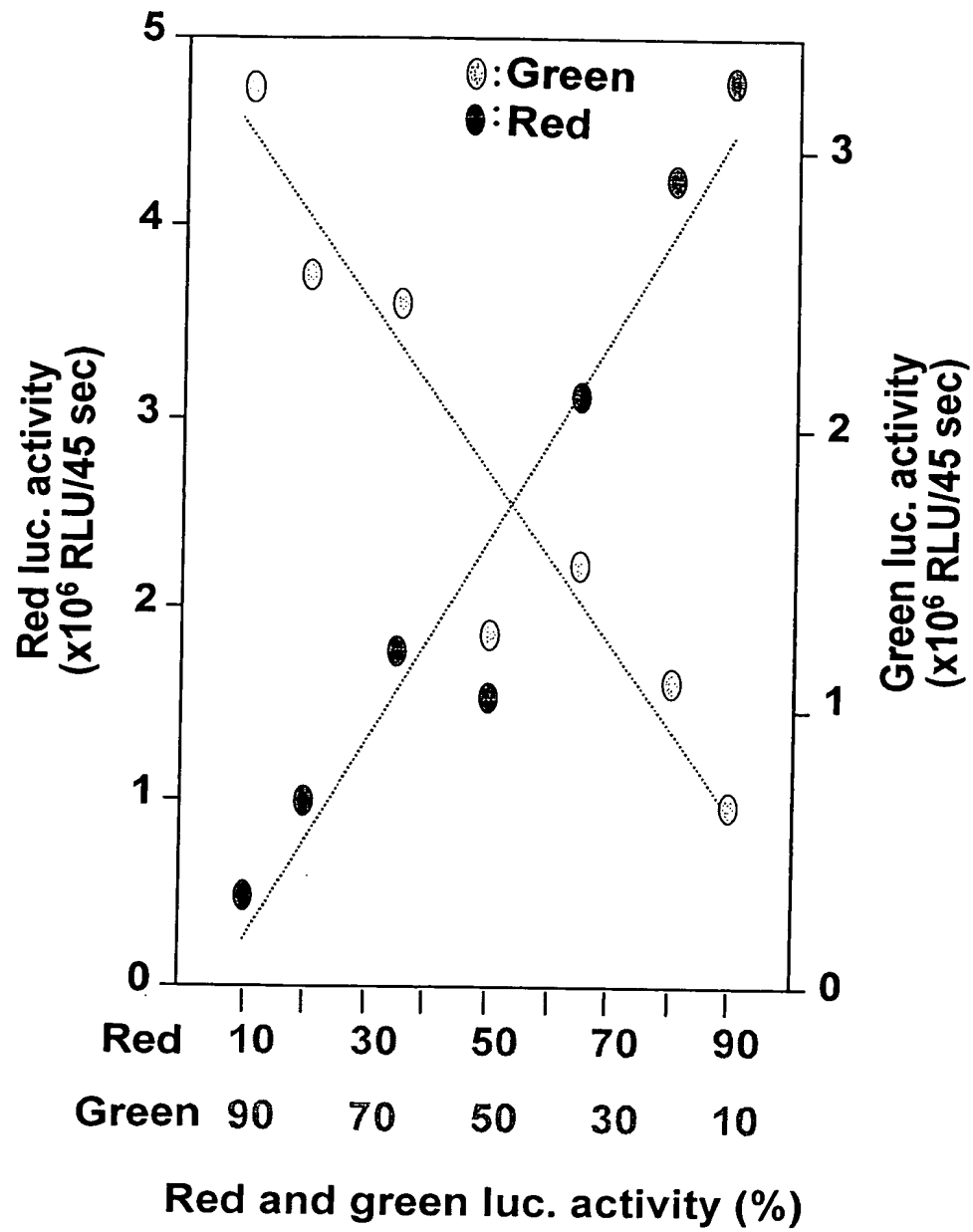
5 / 2 2
Fig. 5



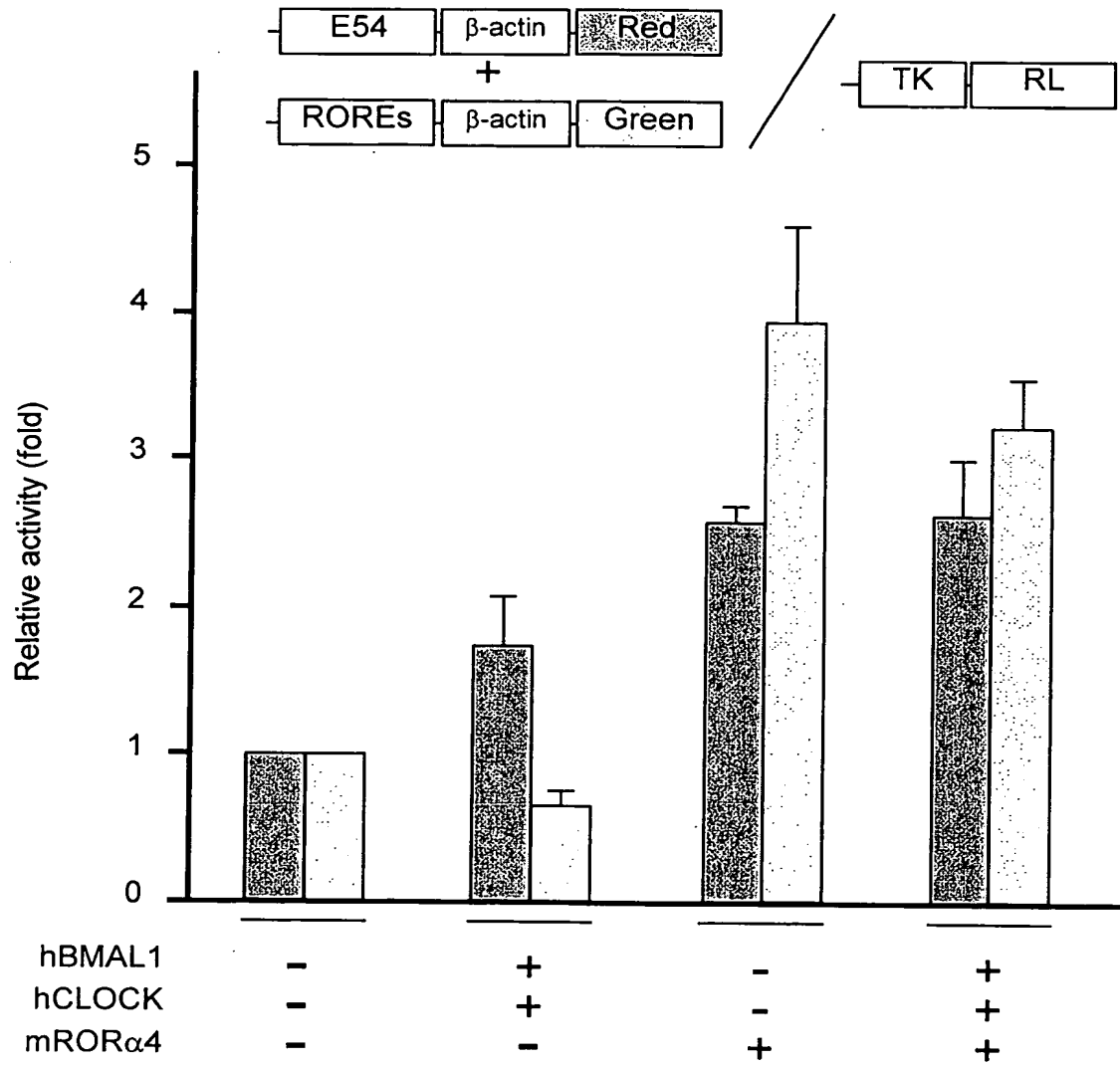
6 / 2 2
Fig. 6



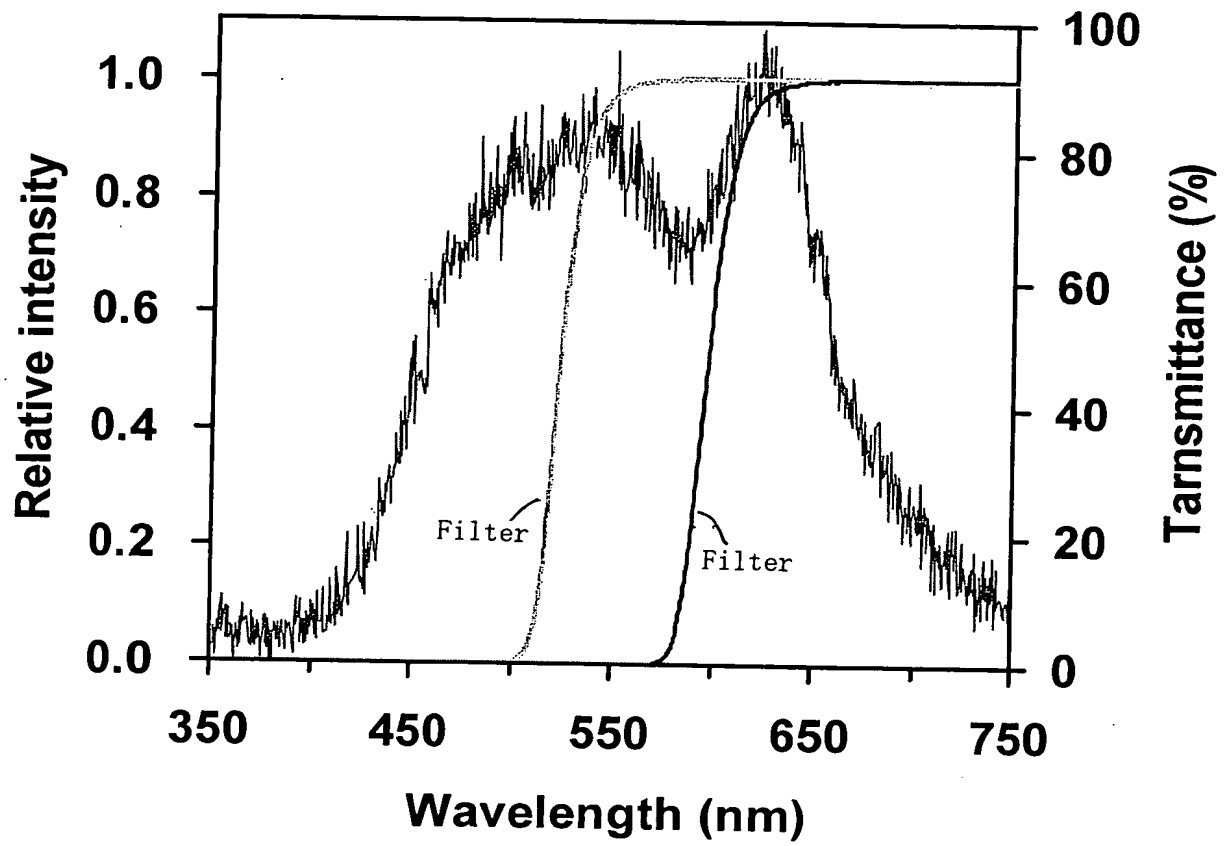
7 / 2 2
F i g . 7



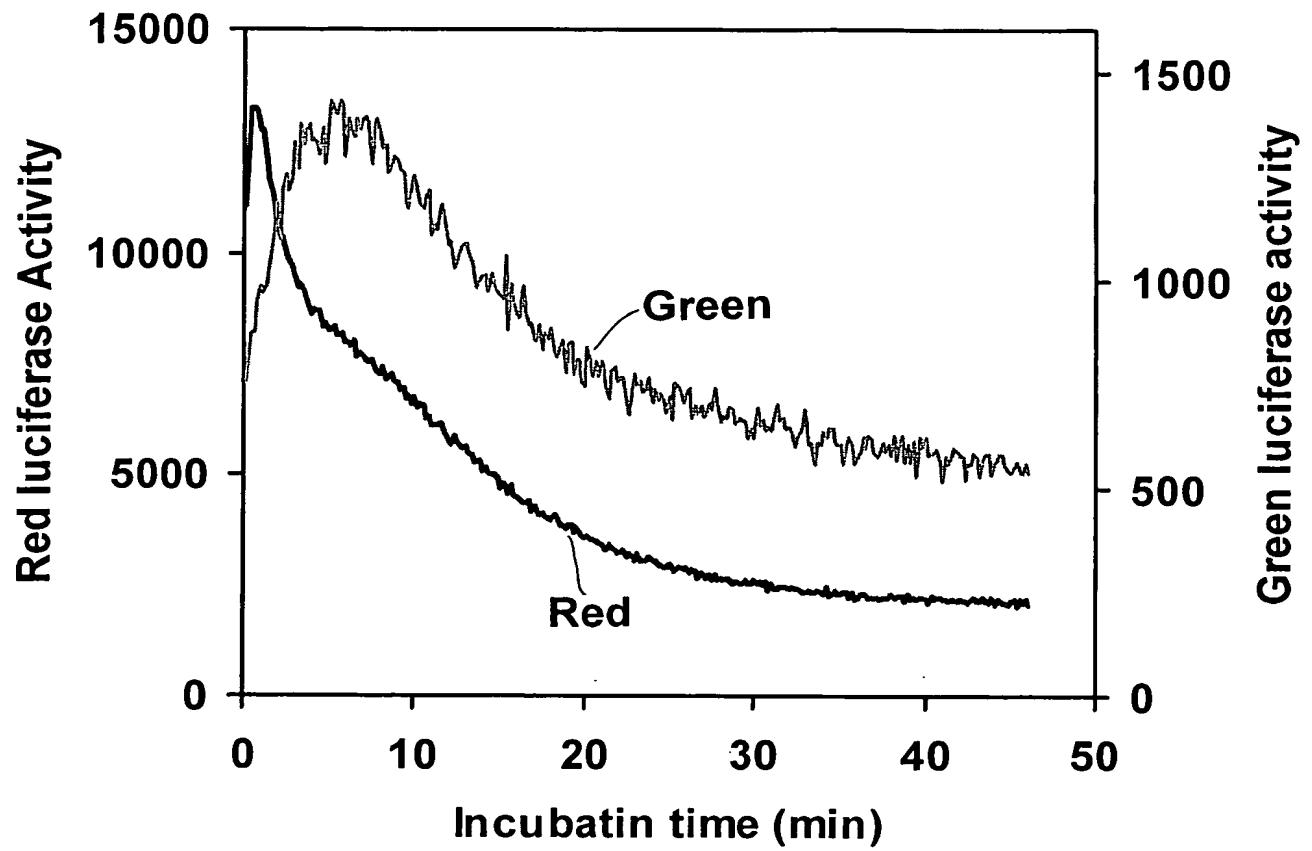
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Fig. 8



9 / 2 2
Fig. 9



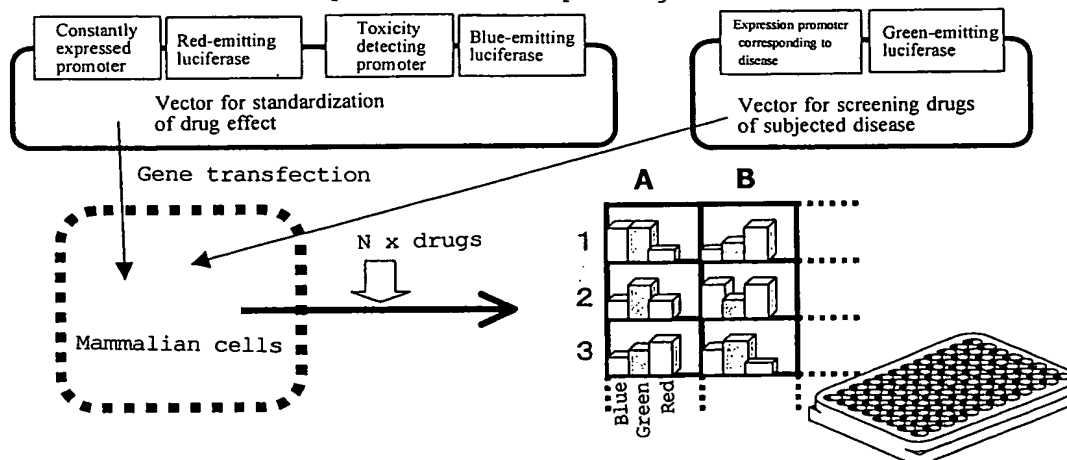
10/22
Fig. 10



11/22
Fig. 11

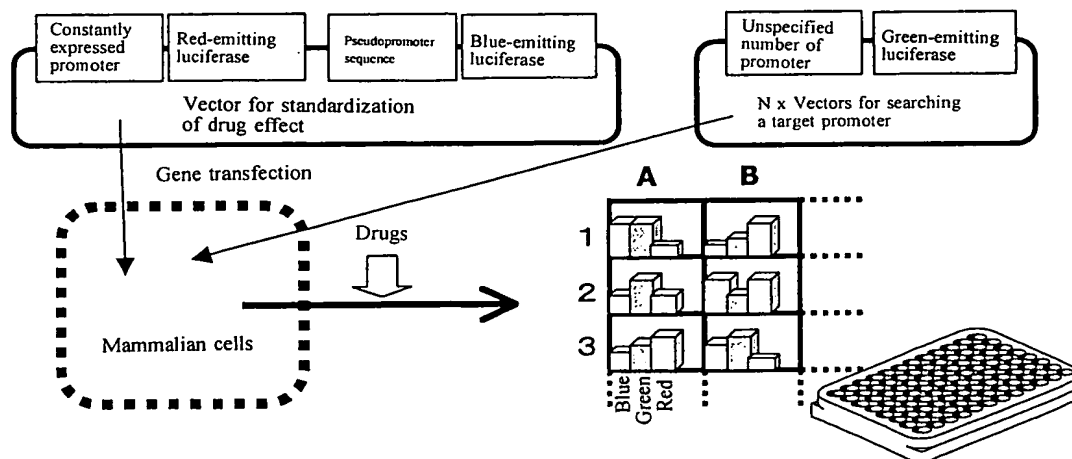
Many specimens are exhaustively analyzed in a primary screening.

Example 1: Screening for drugs which induce a gene expression corresponding to a disease



For example, in this primary screening, the red-emitting luciferase is a control, the blue-emitting luciferase detects the toxicity, and the green-emitting luciferase detects the drug effect. Therefore, it can be evaluated that the drug in an A1 column has the effect for the disease but works lethally and the drug in an A2 column has the similar effect to the A1 and is safer than the A1.

Example 2: Screening for gene expression regions which a certain drug affects

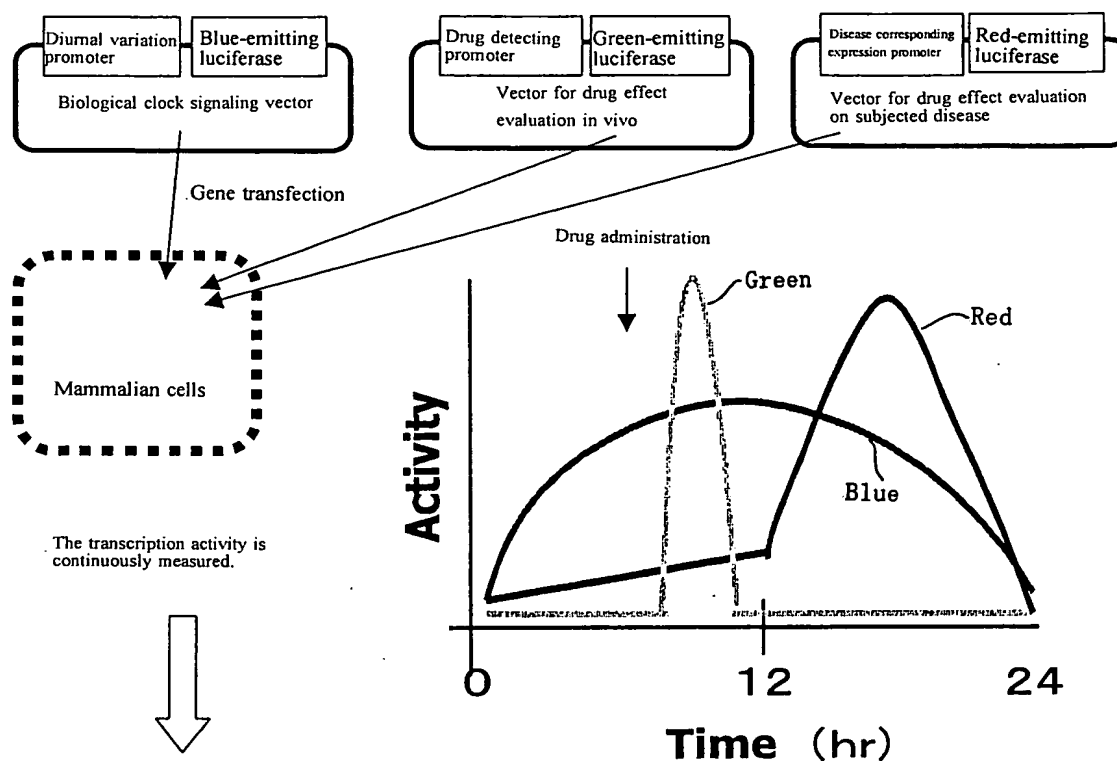


For example, in this primary screening, the red-emitting luciferase is a control, a pseudopromoter sequence is inserted in the blue-emitting luciferase, and the green-emitting luciferase reports a promoter with unknown function obtained from a promoter sequence library and evaluates a non-specific effect. A target site of the drug whose promoter target is not determined is screened. Therefore, for a certain drug, the promoter selected in an A1 column has the effect at first glance but is likely to be non-specific when determined by the blue, whereas the promoter in an A2 column has the same effect as that in the A1 column and is not non-specific so long as determined by the blue.

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Fig. 12

In the secondary screening, an individual event is evaluated.

Example: Drug discovery based on diurnal variation of body



For example, in the secondary screening, it can be evaluated whether the drug having an effect on the subjected disease works effectively for a patient or when the drug is administered is important. The blue-emitting luciferase is a promoter representing a diurnal change of a human biological clock and its maximum corresponds to daytime 12 hours. The green-emitting luciferase and the red-emitting luciferase suppose a transient effect of the drug and a promoter region where the drug works finally, respectively. It is found that when the drug is administered at 6 o'clock in the morning shown by the blue, the green which represents the effect on the drug transiently increased after one hour due to a shock thereof, but the effect thereof disappears in several hours, the effect of the drug is gradually increased around a noon. From this result, the drug discovery which makes a design of an administration time, the influence and effect of the drug suitable becomes possible.

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Fig. 13

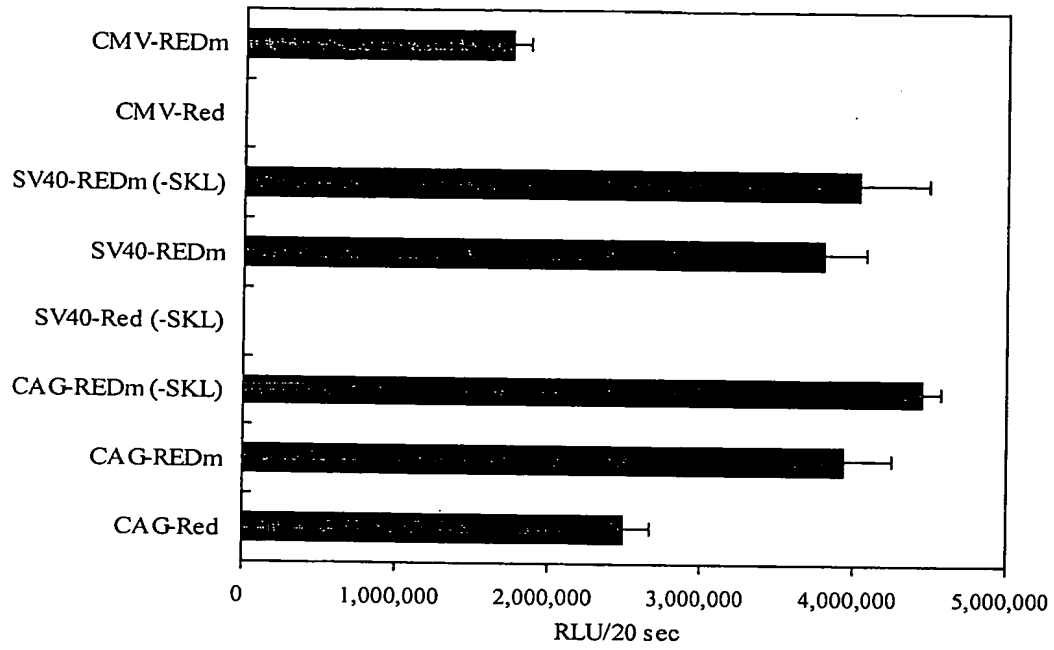
RedWT	1	ATGGAAGAAGA-AACATGTGAATGG-SATCG-CCTCG-SATCT-CTTTT-CCTGGCACA	60
REDm	1	ATGGAAGAAGA-AACATGTGAATGG-SATCG-CCTCG-SATCT-CTTTT-CCTGGCACA	60
RedWT	61	GCTGGACTACATTTATCATTCATTTATAAATAATCTATATACGACGGAATATC	120
REDm	61	GCTGGCTTSCAGCTGTATCAGTCCCTATATAAATA-TCCTATATACGACGGAATATC	120
RedWT	121	GATGCCCATACCAATGAGTATATCATATGCTCAATATTTGAAAC-AG-TGCCGCTG	180
REDm	121	GATGCCCAACCAACGAGGTGATCTCTATGCTCAATATTTGAAACAGTTGCCGCTG	180
RedWT	181	GCACTTAGCTTAGAATATATGGCTGGATCATACAAATTTTGGCAAT-TGCAGTAA	240
REDm	181	GCTGTAGCTTGGAGATATGGCTGGATCATACAAATTTTGGCAAT-TGCAGTAA	240
RedWT	241	AACAACATACACTTTTGGCCCTTTATCTGCTTTATACCAAGGATTCATGGCA	300
REDm	241	AACAACATACACTTTTGGCCCTTTATCTGCTTTATACCAAGGATTCATGGCA	300
RedWT	301	ACATCAAAATGATATGTACACAGAGGGGAGATGATGGCCATTTGAAATATTCGAAECCA	360
REDm	301	ACATCAAAATGATATGTACACAGAGGGGAGATGATGGCCATTTGAAATATTCGAAECCA	360
RedWT	361	TGCTTATGTTTGTTCAGAGAAATCACTCCATTATTTTGAAAGTACAAACATCTA	420
REDm	361	TGCTTATGTTTGTTCAGAGAAATCACTCCATTATTTTGAAAGTACAAACATCTA	420
RedWT	421	GATTTCTTAAAGTATAGTATAGAAATGTACGATATCAATGGCGTGAATGG	480
REDm	421	GATTTCTTAAAGTATAGTATAGAAATGTACGATATCAATGGCGTGAATGG	480
RedWT	481	GTATTTAGCTTTTTCAGCTATACGATCAGCGTTTATCCAGTGAATTTACCCCA	540
REDm	481	GTATTTAGCTTTTTCAGCTATACGATCAGCGTTTATCCAGTGAATTTACCCCA	540
RedWT	541	AAAGAGTTTGATCCCTGGAGAGAACCGCATTTATATGACATCTCTGGAACAACTGA	600
REDm	541	AAAGAGTTTGATCCCTGGAGAGAACCGCATTTATATGACATCTCTGGAACAACTGA	600
RedWT	601	TTCCTAAAGGCTATATAGCCATAGAGATATACATATAGATTCTGCCATAGCAGT	660
REDm	601	TTCCTAAAGGCTATATAGCCATAGAGATATACATATAGATTCTGCCATAGCAGT	660
RedWT	661	SATCCCATCTAGGACTGATTTTCAGATACATCATTTTTCATATAGGCTTTT	720
REDm	661	SATCCCATCTAGGACTGATTTTCAGATACATCATTTTTCATATAGGCTTTT	720
RedWT	721	CATCATGCTTTGGACTGTTTACTGCACTAGCTTACTTTCCAGTGGACTTAAGATTTA	780
REDm	721	CATCATGCTTTGGACTGTTTACTGCACTAGCTTACTTTCCAGTGGACTTAAGATTTA	780
RedWT	781	ATGGTGAAAGAAATTTGAGGGCGAATCTCTCTTTAAACCATAACAAATACAAATCGCT	840
REDm	781	ATGGTGAAAGAAATTTGAGGGCGAATCTCTCTTTAAACCATAACAAATACAAATCGCT	840
RedWT	841	TCTATTTAGTTTCTCTCTCAATATGGTATATTTGGCAAAAGTCAATTTTATGATGA	900
REDm	841	TCTATTTAGTTTCTCTCTCAATATGGTATATTTGGCAAAAGTCAATTTTATGATGA	900
RedWT	901	TACAATTTATCAGCTTACGAAATTTCTTGTGGAGGCTCTCTTTAGGAGAGATATC	960
REDm	901	TACAATTTATCAGCTTACGAAATTTCTTGTGGAGGCTCTCTTTAGGAGAGATATC	960
RedWT	961	GCAATTAAGTACGAGAGATGAAATGATGAAATCTCTCAAGGATATGATTAAC	1020
REDm	961	GCAATTAAGTACGAGAGATGAAATGATGAAATCTCTCAAGGATATGATTAAC	1020
RedWT	1021	GAAACCTGAGCGCTTATATTTAGCCCCAATGATGAGAAATTAAGAAAGGCTGAT	1080
REDm	1021	GAAACCTGAGCGCTTATATTTAGCCCCAATGATGAGAAATTAAGAAAGGCTGAT	1080
RedWT	1081	GGAGCTTATGCTATGTTTAAATTAAGTTTATGATCAATTAAGTGAAGGCTTA	1140
REDm	1081	GGAGCTTATGCTATGTTTAAATTAAGTTTATGATCAATTAAGTGAAGGCTTA	1140
RedWT	1141	GGACCAAGAGAAAGGGCGAATATGCTTCAAGATCAATGCTTATGAAAGGATATAC	1200
REDm	1141	GGACCAAGAGAAAGGGCGAATATGCTTCAAGATCAATGCTTATGAAAGGATATAC	1200
RedWT	1201	AACAATCTCAAGCTATGCTTATGATGCTTATGATGCTTATGATGCTTATGATGCT	1260
REDm	1201	AACAATCTCAAGCTATGCTTATGATGCTTATGATGCTTATGATGCTTATGATGCT	1260
RedWT	1261	CTTGGATATACGACGAGACAGATTTATCTATGTTTATGATGATGAAAGAGTTAT	1320
REDm	1261	CTTGGATATACGACGAGACAGATTTATCTATGTTTATGATGATGAAAGAGTTAT	1320
RedWT	1321	AAATTAAGGATTAAGGTTTGGCTGCTGAAATGGAATATGCTTTTAAATTAAC	1380
REDm	1321	AAATTAAGGATTAAGGTTTGGCTGCTGAAATGGAATATGCTTTTAAATTAAC	1380
RedWT	1381	AAATTTCTGATGCTGGCTTATTTGATTTCTGACGAAATTTGCTTGTCAATTTCTTCC	1440
REDm	1381	AAATTTCTGATGCTGGCTTATTTGATTTCTGACGAAATTTGCTTGTCAATTTCTTCC	1440
RedWT	1441	GCTGTGTTTGTGTTTGGCTTGGTAAAGATGACCGAAGGAAATTCAGGATTATAT	1500
REDm	1441	GCTGTGTTTGTGTTTGGCTTGGTAAAGATGACCGAAGGAAATTCAGGATTATAT	1500
RedWT	1501	GCTGAGCTTATACGACGAAATTAATTTTGGGGGCTTCTTTTATAGATGATTT	1560
REDm	1501	GCTGAGCTTATACGACGAAATTAATTTTGGGGGCTTCTTTTATAGATGATTT	1560
RedWT	1561	CCAAAGGCCCAACAGGTAATTTATGAGAAACGAACTCTTCAATTTTGGCCCGGAA	1620
REDm	1561	CCAAAGGCCCAACAGGTAATTTATGAGAAACGAACTCTTCAATTTTGGCCCGGAA	1620
RedWT	1621	CAGGCAATTCATTTTAA	1641
REDm	1621	CAGGCAATTCATTTTAA	1641

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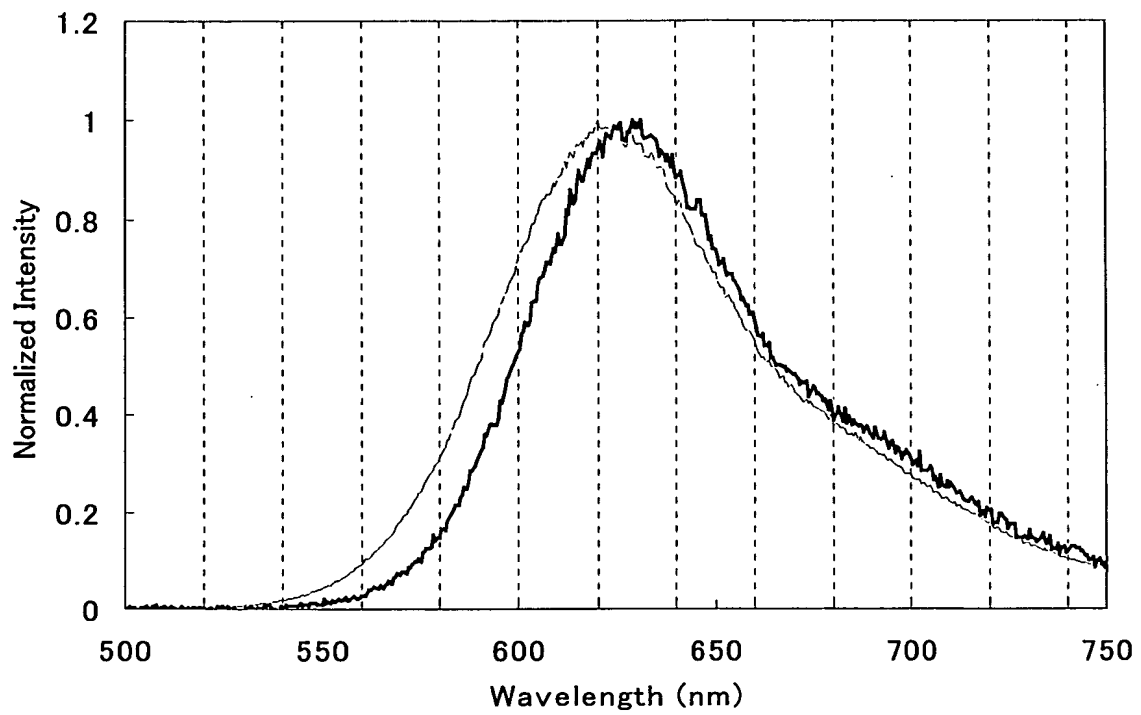
Fig. 14

REDm	1	ATGGAAGAAGAACACGTGTGAATGGATCGCCCTGGGATCTGGTGTTCCTGGCACA	60
WO2003-016839	1	ATGGAAGAAGAACACGTGTGAATGGATCGCCCTGGGATCTGGTGTTCCTGGCACA	60
REDm	61	GCCTGGCTCAGCTGTACAGTCCTGTATAAATATCTACATCACACACGGATATATC	120
WO2003-016839	61	GCCTGGCTCAGCTGTACAGTCCTGTATAAATATCTACATCACACACGGATATATC	120
REDm	121	GACGCCCATACCAACGAGGTATCTCTATGCTCAGATTTTAAACAAAGTTCGGCTG	180
WO2003-016839	121	GACGCCCATACCAACGAGGTATCTCTATGCTCAGATTTTAAACAAAGTTCGGCTG	180
REDm	181	GCCTGTAGCTGGAGAAGTATGGCTGGATCACAAACATGGGTGGCCATTTGACGAG	240
WO2003-016839	181	GCCTGTAGCTGGAGAAGTATGGCTGGATCACAAACATGGGTGGCCATTTGACGAG	240
REDm	241	AACAACATCACTTTTCGGCCCTGTGATCTGCTGCCCTATACCAAGGATTTCAATGGC	300
WO2003-016839	241	AACAACATCACTTTTCGGCCCTGTGATCTGCTGCCCTATACCAAGGATTTCAATGGC	300
REDm	301	ACATCAACGATATGTACACAGAGGGAGATGATGGCCATCTGAACATCTCCAAGCCA	360
WO2003-016839	301	ACATCAACGATATGTACACAGAGGGAGATGATGGCCATCTGAACATCTCCAAGCCA	360
REDm	361	TGCTGATGTTCTGTTCAAGAAATCTGCTTCATCTGAAGGTGCAGAAGCACCTG	420
WO2003-016839	361	TGCTGATGTTCTGTTCAAGAAATCTGCTTCATCTGAAGGTGCAGAAGCACCTG	420
REDm	421	GACTTTCTCAAGAAATGATCTGATCAGCATGTACGATCAATGGCGTGGAGTGC	480
WO2003-016839	421	GACTTTCTCAAGAAATGATCTGATCAGCATGTACGATCAATGGCGTGGAGTGC	480
REDm	481	GTCTTCAATTTCTGCTCCGTACACATCACGCTTCGATCAGTGAAGTTCAACCC	540
WO2003-016839	481	GTCTTCAATTTCTGCTCCGTACACATCACGCTTCGATCAGTGAAGTTCAACCC	540
REDm	541	AAAGAGTTTCAACCCCTCAAGAAACCGCTGATATGACATCTCTGGACAAACGG	600
WO2003-016839	541	AAAGAGTTTCAACCCCTCAAGAAACCGCTGATATGACATCTCTGGACAAACGG	600
REDm	601	CTGCCCTAAGGGCTGTGATCAGCCACAGAGCATACATCAGATTCTGCCACAGCA	660
WO2003-016839	601	CTGCCCTAAGGGCTGTGATCAGCCACAGAGCATACATCAGATTCTGCCACAGCA	660
REDm	661	GATCCCATCTACGGCACCCTATCCCTCCAGATACATCTCTGGCATCTGCCACCTTC	720
WO2003-016839	661	GATCCCATCTACGGCACCCTATCCCTCCAGATACATCTCTGGCATCTGCCACCTTC	720
REDm	721	CATCAGCCTTTGACTGTTTACTGCTGGCTTACTTCTCTGCTGAGTGAAGTTCT	780
WO2003-016839	721	CATCAGCCTTTGACTGTTTACTGCTGGCTTACTTCTCTGCTGAGTGAAGTTCT	780
REDm	781	ATGGTGAAATTTTGAGGGCGAGTTCTTCTGAATACCATCAGAAATACAAGATCGCT	840
WO2003-016839	781	ATGGTGAAATTTTGAGGGCGAGTTCTTCTGAATACCATCAGAAATACAAGATCGCT	840
REDm	841	TCTATCTGTGCTCCTCCTATATGCTGTATCTGGCTAAGACCCCTGCTGATGAG	900
WO2003-016839	841	TCTATCTGTGCTCCTCCTATATGCTGTATCTGGCTAAGACCCCTGCTGATGAG	900
REDm	901	TACAATTTCTCAGCTGACAGATCTGCTGCTGGCTCCTCTGGGAGAGACATC	960
WO2003-016839	901	TACAATTTCTCAGCTGACAGATCTGCTGCTGGCTCCTCTGGGAGAGACATC	960
REDm	961	GCCTAATTTGCTCAAGAGACTGAAGTCTCAAGATCCCTCAGGGATATGGCTGACC	1020
WO2003-016839	961	GCCTAATTTGCTCAAGAGACTGAAGTCTCAAGATCCCTCAGGGATATGGCTGACC	1020
REDm	1021	GAGACCTGTAGCTCTGATCTGAGCCCAACGATACAGCTGAAGAGGGCTCATC	1080
WO2003-016839	1021	GAGACCTGTAGCTCTGATCTGAGCCCAACGATACAGCTGAAGAGGGCTCATC	1080
REDm	1081	GGACCCCTATGCTTATCTCAAGTGAAGTGTATGACATCAATCCGGCAAGCCCTG	1140
WO2003-016839	1081	GGACCCCTATGCTTATCTCAAGTGAAGTGTATGACATCAATCCGGCAAGCCCTG	1140
REDm	1141	GGACCAAGAGAGAAAGGCGAGATTTGCTTCAAGAGCAGATGCTGATGAAGGGTATC	1200
WO2003-016839	1141	GGACCAAGAGAGAAAGGCGAGATTTGCTTCAAGAGCAGATGCTGATGAAGGGTATC	1200
REDm	1201	AACAATCTCAGGCCACTAGGGATGCTCTGGACAAGGATGGGTGGCTGCACACTGG	1260
WO2003-016839	1201	AACAATCTCAGGCCACTAGGGATGCTCTGGACAAGGATGGGTGGCTGCACACTGG	1260
REDm	1261	CTGGCTATACGACGAGACAGATTATCTATGTCTGGATCGGCTGAAAGAGCTATC	1320
WO2003-016839	1261	CTGGCTATACGACGAGACAGATTATCTATGTCTGGATCGGCTGAAAGAGCTATC	1320
REDm	1321	AAGTAATTTGCTCAGGTTCCTCTGCTGAGTGGATGAGCTGCTGAGCAGCCCT	1380
WO2003-016839	1321	AAGTAATTTGCTCAGGTTCCTCTGCTGAGTGGATGAGCTGCTGAGCAGCCCT	1380
REDm	1381	AATATCTCTGATGCGGCGTATTTGATCTCCGACGATTTGCTGGTCAATTCCTTC	1440
WO2003-016839	1381	AATATCTCTGATGCGGCGTATTTGATCTCCGACGATTTGCTGGTCAATTCCTTC	1440
REDm	1441	SCCTGTGTCTGCTGGAGCCTGGCAAGACATGACCGAGAAAGATGCGAGGATATATC	1500
WO2003-016839	1441	SCCTGTGTCTGCTGGAGCCTGGCAAGACATGACCGAGAAAGATGCGAGGATATATC	1500
REDm	1501	GCCTGAGTGGTACACACCAACATCTGCGGGGCTGCTGCTTATGACAGCATT	1560
WO2003-016839	1501	GCCTGAGTGGTACACACCAACATCTGCGGGGCTGCTGCTTATGACAGCATT	1560
REDm	1561	CCAAAGGCCCAACAGGAACTGATGAGAAACGATGAGGGGCTCTTTTGGCTGAG	1620
WO2003-016839	1561	CCAAAGGCCCAACAGGAACTGATGAGAAACGATGAGGGGCTCTTTTGGCTGAG	1620
REDm	1621	CAGGCCTATCTAAGCTGTAA	1641
WO2003-016839	1621	CAGGCCTATCTAAGCTGTAA	1641

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Fig. 15

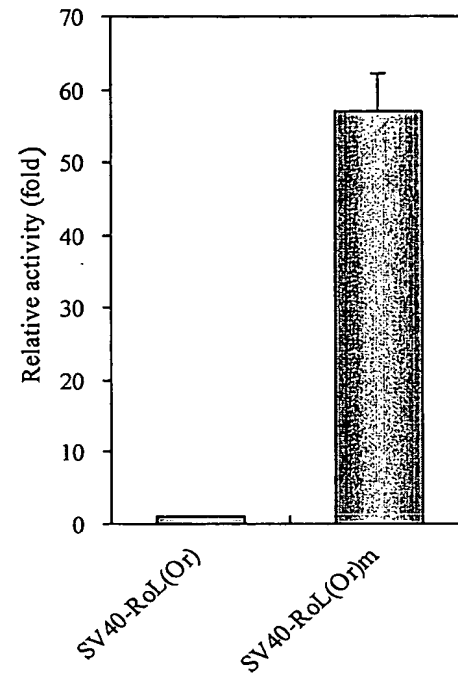
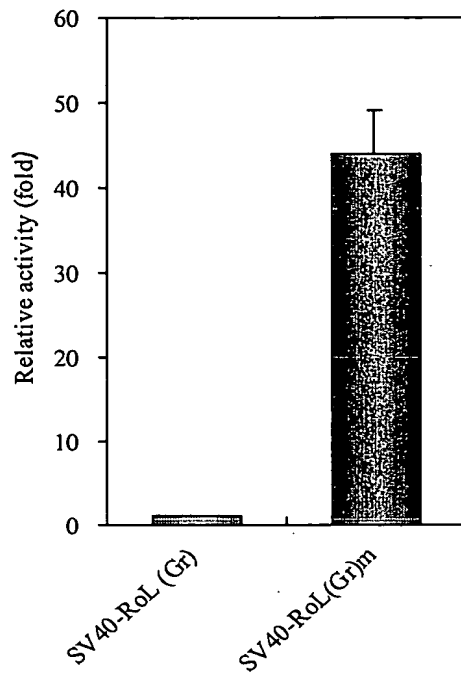


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Fig. 16

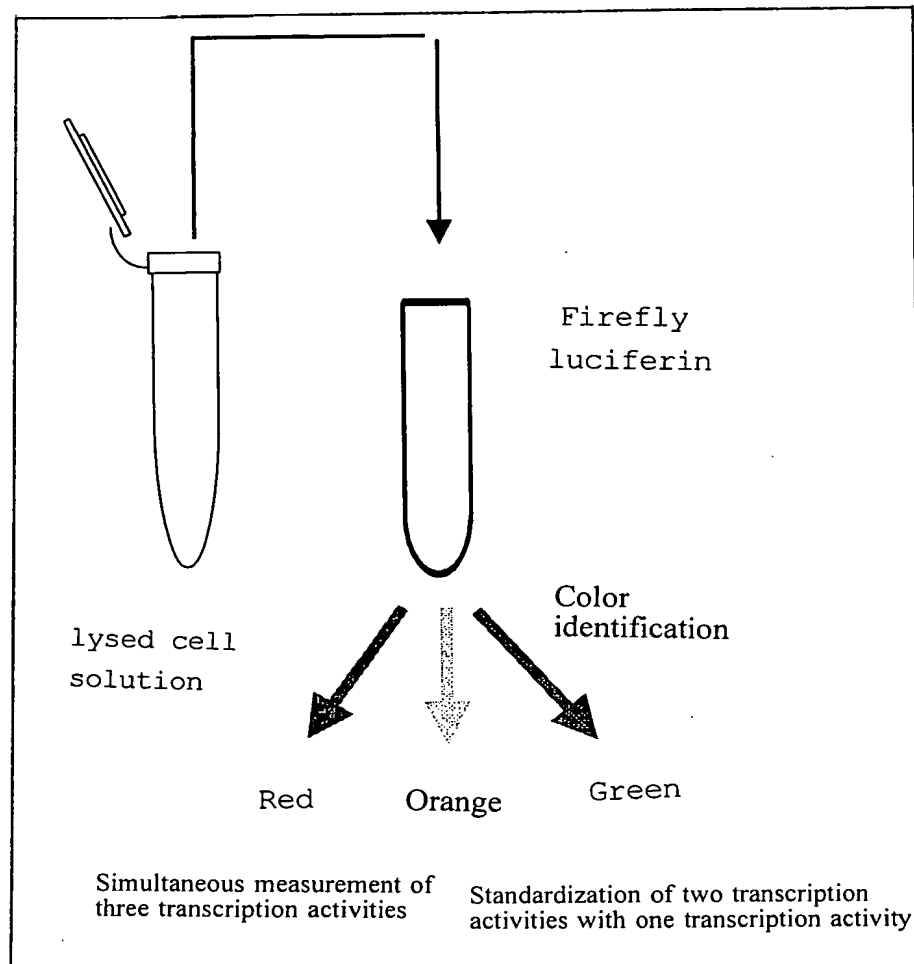


RoLm	1	ATGCTTAAGATATCATTTCTGACGGGCCAAATCTGAGACCCCTTGACCTGGGACT	60
RoLWT	1	ATGCTTAAGATATCATTTCTGAGGGGCCAAATCTGAGACCCCTTGACCTGGGACT	60
RoLm	61	GCAGGATTCAATCTTAAGGGCTTTGACGAAATTTTCCTTTTAAAGGAGGCCATGATC	120
RoLWT	61	GCAGGATTCAATCTTAAGGGCTTTGACGAAATTTTCCTTTTAAAGGAGGCCATGATC	120
RoLm	121	GACGCACACCCGAGGAGTGTGTCTTACCGGACATCTGGGACACAGCTGTGAATG	180
RoLWT	121	GACGCTACACCCGAGGAGTGTGTCTTACCGGACATTTTGGAAACAGCTGTGAATTA	180
RoLm	181	GCTAAATGCTACGAAACTAGGCTGCGCCCAACACAGCGTATATCTGTGTGCAGCGAG	240
RoLWT	181	GCTAAATGCTACGAAACTAGGATATGCTATGCGCCCAACACAGCGTATATCTGTGTGCAGCGAG	240
RoLm	241	AATAGCACATCTTCTTCTACCCCGTATCGCCGCTGTGATATGGGCTGATCACGCG	300
RoLWT	241	AATAGCACATCTTCTTCTTACCCCGTATTCGCGCTGTGATATGGGCTGATCACGCG	300
RoLm	301	ACCGTAATGATAGCTAACCCGAGGGAGTTTGGGACCTTAAATATCTCAAGCC	360
RoLWT	301	ACCGTAATGATAGTATTAACCCGAGGGAGTTTGGGAACTTAAATATCTCAAAACCG	360
RoLm	361	GAAATGTGTCTGCTCAAGAAAGCCATTAAGAAATGATGGCTGAAGAGGAACGTG	420
RoLWT	361	GAAATGTGTCTGCTCAGAAAGCCATTAAGAAATGATGGCAATGAAPAGGAACGTG	420
RoLm	421	AATTTATCAAGAGGTGTGTCTGGAGAGGAGGATATGGGCGAGGCCAGTGT	480
RoLWT	421	AATTTATTAAGAGGTGTGTCTTGGATAGTAAAGAGGATATGGGCGAGGCCAGTGT	480
RoLm	481	CTAGCAACTTATGGCTCGTACTCTGAGCCCAACTGGACGTAGAAATTTAAGCCA	540
RoLWT	481	CTTAGCAACTTATATGGCAGCTATTCTGAGACCCAATTTGGACGTAGAAATTTAAGCCA	540
RoLm	541	AGGCAATTTGAGGCAAGAGACAGTGGCTTATATATGTCCTCTGTGGACACCCGG	600
RoLWT	541	CGGCAATTTGATGCTAAGAGACAGTGGCTTATATATGTCCTATCGGGACACCCGG	600
RoLm	601	CTGCCAAGAGGTGTGTCTGACCCCAAGGAACCTGAGCGTGTGCTTGGTCACTGCAAG	660
RoLWT	601	CTGCCAAGAGGGCTGTGTTAACCCATCGAAATTAAGCGTTGCTTCTGTCACCTGCAAG	660
RoLm	661	GATCCCTGTGTGGCACAGAACTATCCCTCACTGATCTGCTATCGTCCCTTC	720
RoLWT	661	GATCCCTTATTCGGCACAGAACTATCTCTCACTGCTGATTTATCTATGCTCCCTTC	720
RoLm	721	CATCAGCGTTTGGAAATGTTCAACCTGTCTATTTATTTAGTGGGCTAGAGTGTGTA	780
RoLWT	721	CATCAGCGTTTGGAAATGTTCAACCTGTCTATTTATTTAGTGGGCTAGAGTGTGTA	780
RoLm	781	CTCTGAAGAGATTGCAAGAGAAGTTTCTCTAGCACCATTGAAGATCAGAATCCA	840
RoLWT	781	TTTACTGAAGAGATTGCAAGAGAAGTTTCTCTAGCACCATTGAAGATCAGAATCCA	840
RoLm	841	ACAATCGTGTGGCCCTCTCTATGTTGTCTGCTAAGAGCCCTGTGTGATCAG	900
RoLWT	841	ACTATCGTGTGGCCCTCTCTATGTTGTCTGCTAAGAGCCCTGTGTGATCAG	900
RoLm	901	TACGACTGTCCAGTATAGAGAGTGTGGCCCGGCGCTGTGGACCTGAGGTT	960
RoLWT	901	TACGATTGTGCCAGTATAGAGAGTGTCTACCCGTGGCGACTGTGGAGCTGAGGTT	960
RoLm	961	GCATGGCCGTTGCAGAGGCTGAATATGGCGATCCTTACGGCTACGGATGACC	1020
RoLWT	961	GCATGGCCGTTGCAGAGGCTGAATATGGCGATCCTTACGGCTACGGATGACC	1020
RoLm	1021	GATACGTGTGGCCCGTCTATATACCCCTATGACGACGTTAAACGGTCTACCGG	1080
RoLWT	1021	GATACGTGTGGCCCGTATATATACCCCTATGACGACGTTAAACGGTCTACCGG	1080
RoLm	1081	AGGGTAGCCCTACGTGACGGTAATGTGTGATCTACACCCGGTAATCTTGGG	1140
RoLWT	1081	AGGGTAGCCCTACGTGACGGTAATGTGTGATCTTACACCCGGTAATCTTGGG	1140
RoLm	1141	CTAAATAGAGAGGCTAGCTATGCTTAAAGAGATCATATGAAGGGCTATTTCAAC	1200
RoLWT	1141	CTAAATAGAGAGAGGAGCTTGTGTTTAAAGAGATCATATGAAGGGCTATTTCAAC	1200
RoLm	1201	AAATACAGAGCTACGAAAGGCCATCGTAAGAGAGGATGGTTTCACTGAGAGTGT	1260
RoLWT	1201	AAATACAGAGCTACGAAAGGCCATCGTAAGAGAGGATGGTTTCACTGAGAGTGT	1260
RoLm	1261	GGATATATGACGACGATGGTATTCTTCTGTTGTGATCTGTTAAAGAACTATCAAG	1320
RoLWT	1261	GGATATATGACGACGATGGTATTCTTCTGTTGTGATCTGTTAAAGAACTATCAAG	1320
RoLm	1321	TACAAGGGTATCAAGTGTGCTGCTGAGCTGGAGTGGTGGCTTCTACACCTCATC	1380
RoLWT	1321	TACAAGGGTATTAAGTGTGCTGCTGAGCTGGAGTGGTGGCTTCTACACCTCATC	1380
RoLm	1381	ATTAAGATGCCGCTGTGCTGCGCTGCCGACGAGGCTGCTGGAGCTACCGGCT	1440
RoLWT	1381	ATTAAGATGCCGCTGTGCTGCGCTGCCGACGAGGCTGCTGGAGCTACCGGCT	1440
RoLm	1441	TGATATGTTCTCCAGAGAGGAGAGCTTACTGACAGAGATATGACTATATGACC	1500
RoLWT	1441	TGATATGTTCTCCAGAGAGGAGAGCTTACTGACAGAGATATGACTATATGACC	1500
RoLm	1501	GATGAGTGTGCTGCTGCTGAGATCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT	1560
RoLWT	1501	GATGAGTGTGCTGCTGCTGAGATCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT	1560
RoLm	1561	AAAGGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT	1620
RoLWT	1561	AAAGGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT	1620
RoLm	1621	TGCAAGCTTAA	1632
RoLWT	1621	TGCAAGCTTAA	1632

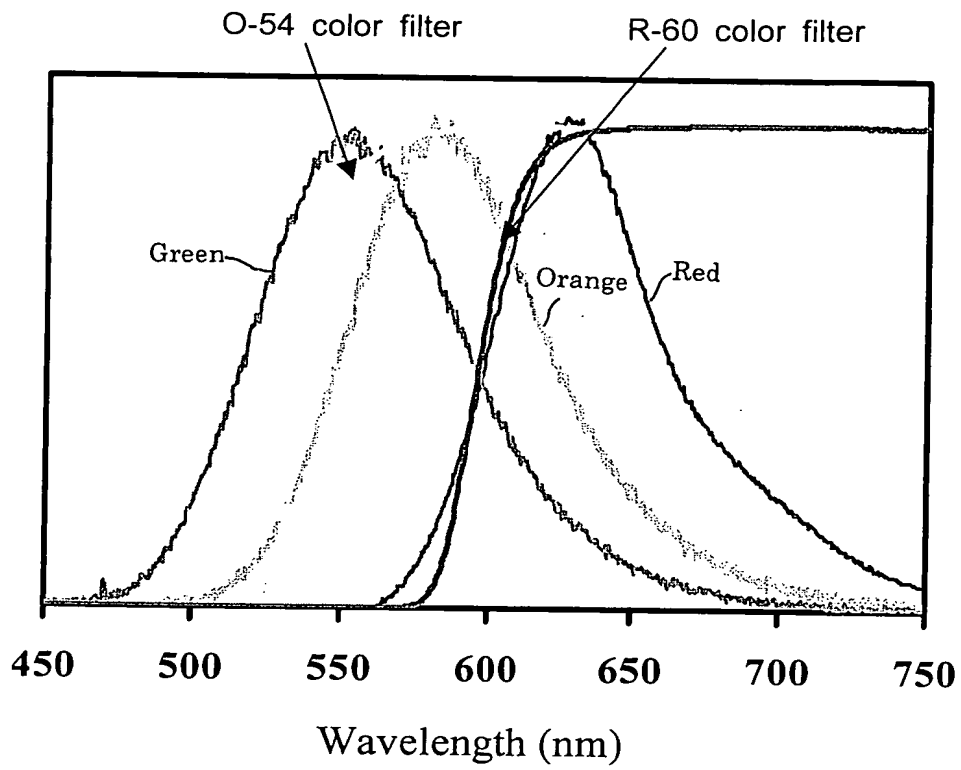
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Fig. 18



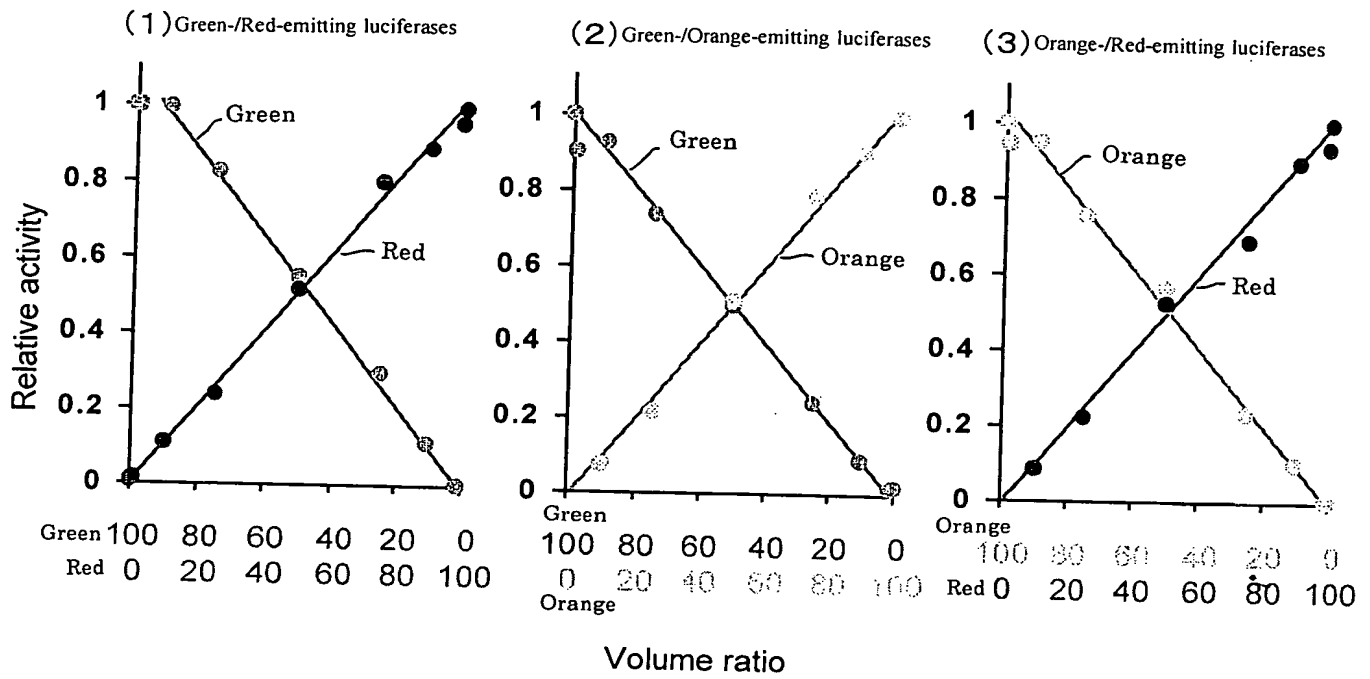
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Fig. 19



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Fig. 20



21/22
Fig. 21



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Fig. 22

